

REMARKS

Claims 1, 3-20, 22-39 and 41-46 are currently pending in the subject application and are presently under consideration. Claims 1, 20, 22, 39 and 46 are amended as shown on pp. 3-9 of the Reply to emphasize novel features and to correct a minor informality. Support for the amendments may be found, for example, in the specification at paragraphs [0032] and [0043]. In addition, the specification has been amended as indicated on p. 2 to correct a minor informality.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Objection to Claim 22

Withdrawal of the objection to claim 22 is respectfully requested in view of the amendments set forth above.

II. Rejection of Claims 1, 3-6, 8-11, 13-16, 18-20, 22-25, 27-30, 32-35, 37-39, 41-43, and 46 Under 35 U.S.C. §103(a)

Claims 1, 3-6, 8-11, 13-16, 18-20, 22-25, 27-30, 32-35, 37-39, 41-43, and 46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gandolfo (US 7,184,767) in view of Choi (US 6,967,944). Withdrawal of this rejection is respectfully requested for at least the following reasons. The Office Action fails to establish a prima facie case of obviousness.

To reject claims in an application under § 103, an examiner must establish a prima facie case of obviousness. A prima facie case of obviousness is established by a showing of three basic criteria. First, there must be some apparent reason to combine the known elements in the fashion claimed by the patent at issue (e.g., in the references themselves, interrelated teachings of multiple patents, the effects of demands known to the design community or present in the marketplace, or in the knowledge generally available to one of ordinary skill in the art). To facilitate review, this analysis should be made explicit. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP § 706.02(j). See also *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. ___, 04-1350, slip op. at 14 (2007). The reasonable expectation of success must be found in the prior art and not based on applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants' claimed subject matter generally relates to methods and devices for establishing and performing piconet communications. Advantageously, the claimed subject matter can facilitate peer-to-peer transmission outside a piconet.

In particular, independent claim 1 recites *engaging in intra-piconet communications; receiving a pilot signal from a foreign terminal outside the piconet; determining strength of the pilot signal; exchanging messages with the foreign terminal if the pilot signal strength is below a threshold; and establishing a peer-to-peer connection with the foreign terminal*. In view of the above-noted requirements for establishing a prima facie case of obviousness, Gandolfo and Choi do not support the rejection for at least the reason that, even in combination, they fail to disclose or suggest the noted features.

More specifically, for example, Gandolfo and Choi are silent regarding *establishing a peer-to-peer connection with the foreign terminal* where the foreign terminal is *outside the piconet*. The Office Action cites Gandolfo at col. 11, lines 47-58 as allegedly disclosing the noted subject matter (Office Action, p. 4, 2nd par.). The Office Action emphasizes Gandolfo's

... regardless of which device 522a, 552b created the child network, the two device 522a and 552b communicate with each other via a child wireless links 590, so establishing a peer-to-peer connection with the foreign terminal B2-522b in view of piconet 505a or the foreign terminal A2-522a in view of piconet 505b ...

(Id; emphasis in original.) However, it is clear that communication between 522a and 522b in Gandolfo is not via a peer-to-peer connection as recited in claim 1, since as pointed out in the Office Action, communication between devices 522a and 522b occurs in a child network. In this child network, either 522a or 522b is a controller that formed the child network (see, e.g., Gandolfo at col. 11, lines 47-55). Thus, in Gandolfo, communication between 522a or 522b is intra-network, master-slave communication. By contrast, claim 1 recites *establishing a peer-to-peer connection with the foreign terminal* where the foreign terminal is *outside the piconet*.

Further, Gandolfo and Choi are silent regarding *determining strength of the pilot signal* and *exchanging messages with the foreign terminal if the pilot signal strength is below a threshold*, as recited in claim 1. The Office Action correctly observes Gandolfo is deficient as to

the noted features, but alleges that Choi, in col. 5, lines 9-31, cures the deficiencies in Gandolfo (Office Action, p.4, 3rd par.). However, the cited portion of Choi merely describes stations reporting to an access point, so that the access point can determine which stations are “hidden from each other” (Choi, col. 5, lines 20-21). Note in particular that in Choi all the stations belong to the same WLAN (see, e.g., col. 2, lines 60-62). Thus, the cited portion of Choi, and Choi as a whole, completely fail to suggest *determining strength of the pilot signal and exchanging messages with the foreign terminal if the pilot signal strength is below a threshold*, where the foreign terminal is *outside the piconet*, as recited in claim 1.

In view of the above, claim 1 is allowable over Gandolfo and Choi, as are claims 3-6, 8-11, 13-16, 18, 19, 41 and 44 for at least the reason that they depend on claim 1, as well as for the additional features they recite beyond those of base claim 1.

Regarding independent claim 20, along lines discussed previously in connection with claim 1, Gandolfo and Choi do not support the rejection for at least the reason that even in combination Gandolfo and Choi fail to disclose or suggest claim 20's *a controller configured to exchange messages with the foreign terminal that facilitates establishing a peer-to-peer connection with the foreign terminal to support communications if the pilot signal strength is below a threshold*, where the foreign terminal is *outside the piconet*. Claim 20 is therefore allowable over Gandolfo and Choi. Additionally, claims 22-25, 27-30, 32-35, 37, 38, 42, 43 and 45 are likewise allowable over Gandolfo and Choi for at least the reason that they depend on claim 20, as well as for the additional features they recite.

Similarly, independent claim 39 is allowable over Gandolfo and Choi for at least the reason that Gandolfo and Choi are deficient as to claim 39's *means for exchanging messages with the foreign terminal, that facilitates establishing a peer-to-peer connection with the foreign terminal to support communications if the pilot signal strength is below a threshold*, where the foreign terminal is *outside the piconet*.

Gandolfo and Choi are further deficient with respect to independent claim 46. For example, Gandolfo and Choi are silent as to claim 46's *if a pilot signal with a signal strength below a threshold is detected from an isolated terminal, add the isolated terminal to a peer-to-peer connectivity list, the peer-to-peer connectivity list identifying terminals outside the piconet that may be reached with peer-to-peer transmission and forward a list to the isolated terminal identifying terminals included in the piconet*. The Office Action alleges that the noted features

are disclosed in FIG. 6C of Gandolfo, in particular in connection with devices 522a and 522b (Office Action, par. bridging pp. 13-14). However, as discussed previously, devices 522a and 522b of Gandolfo are in no way engaged in *peer-to-peer transmission* as recited in claim 46. Instead, devices 522a and 522b form a child network and engage in master-slave communication, as explained above. Moreover, as admitted in the Office Action, Gandolfo lacks any suggestion of any operation based on *if a pilot signal with a signal strength below a threshold is detected from an isolated terminal*, as recited in claim 46, and Choi is similarly deficient as explained previously.

Additionally, Gandolfo and Choi are still further deficient regarding *route a call from the isolated terminal to a far-end terminal of the piconet, based on being included in a peer-to-peer connectivity list of the isolated terminal identifying each known edge terminal of the piconet*, as further recited in claim 46. Claim 46 is therefore allowable over Gandolfo and Choi.

III. Rejection of Claims 7, 12, 26, and 31 Under 35 U.S.C. §103(a)

Claims 7, 12, 26, and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gandolfo (US 7,184,767) in view of Choi (US 6,967,944), and further in view of Watanabe et al. (US 2002/0080855). Withdrawal of this rejection is respectfully requested for at least the following reasons. The Office Action fails to establish a prima facie case of obviousness.

The requirements for establishing a prima facie case of obviousness have been outlined above. Along lines discussed above, the combination of Gandolfo, Choi and Watanabe et al., does not support the rejection. Claims 7 and 12 depend on claim 1, and claims 26 and 31 depend on claim 30. Therefore, claims 7, 12, 26 and 31 are allowable over Gandolfo and Choi for at least that reason, as well as for the additional features they recite. Watanabe et al. does not cure the deficiencies in Gandolfo and Choi, being likewise silent, for example, concerning claim 1's *establishing a peer-to-peer connection with the foreign terminal* where the foreign terminal is *outside the piconet*, and claim 20's *a controller configured to exchange messages with the foreign terminal that facilitates establishing a peer-to-peer connection with the foreign terminal to support communications if the pilot signal strength is below a threshold*, where the foreign terminal is *outside the piconet*.

IV. Rejection of Claims 17 and 36 Under 35 U.S.C. §103(a)

Claims 17 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gandolfo (US 7,184,767) in view of Choi (US 6,967,944), and further in view of Papasakellariou et al. (US 7,133,435).). Withdrawal of this rejection is respectfully requested for at least the following reasons. The Office Action fails to establish a prima facie case of obviousness.

Along lines discussed above, claims 17 and 36 depend on claims 1 and 20, respectively, and consequently are allowable over Gandolfo and Choi for at least that reason. Moreover, claims 17 and 36 are further allowable over the combination of Gandolfo, Choi and Papasakellariou et al., for at least the reason that even in combination these references fail to disclose or suggest claim 1's *establishing a peer-to-peer connection with the foreign terminal where the foreign terminal is outside the piconet*, and claim 20's *a controller configured to exchange messages with the foreign terminal that facilitates establishing a peer-to-peer connection with the foreign terminal to support communications if the pilot signal strength is below a threshold*, where the foreign terminal is *outside the piconet*.

V. Rejection of Claims 44 and 45 Under 35 U.S.C. §103(a)

Claims 44 and 45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gandolfo (US 7,184,767) in view of Choi (US 6,967,944), and further in view of Icacono et al. (US 2005/0176468). Withdrawal of this rejection is respectfully requested for at least the following reasons. The Office Action fails to establish a prima facie case of obviousness. Claims 44 and 45 depend on claims 1 and 20 respectively, and are therefore allowable for at least the reason that even in combination, Gandolfo, Choi and Icacono et al. fail to disclose or suggest the features of claims 1 and 20 discussed previously.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [QUALP842US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,
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